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ANTERIOR SUSPENSION OF THE UTERUS AND SHORTENING OF THE ROUND LIGAMENTS BY VAGINAL SECTION.*

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Since Dührssen and Mackenrodt first published their methods of vaginal fixation of the uterus, the medical periodicals have been so full of these operations and their modifications that it would be superfluous for me to give to the members of this Society a historical review of the subject. Presuming, therefore, upon your familiarity with what has been accomplished, I will briefly describe an operation devised by me, which is practically a development from these procedures. It consists, briefly, in (1) anterior colporrhaphy ; (2) suture of the fundus uteri to the peritoneal covering of the upper portion of the bladder ; (3) suture of the round ligament to the uterus above its normal uterine insertion at a point as far toward the pubic end as can be grasped; and (4) closure of the vaginal wound in such a way that the bladder regains its vaginal and uterine attachments, and the connective tissue from either side of the anterior fornix is drawn together in front of the uterus and forces the cervix backward.

The steps of the operation are as follows : Dorsal position. Thorough disinfection of the shaved vulva and perinæum and the vagina with soft soap and scrubbing brush or gauze, then with alcohol, and finally with corrosive-sublimate solution. Curettage of the uterus, and disinfection of the endometrium (corporeal and cervical) with ninety-five-per-cent. carbolic acid. A strong silk thread is then passed through both lips of the cervix, which is used to draw the uterus toward the vulva, the vaginal walls being held apart by retractors. A transverse vaginal incision three centimetres long is made immediately in front of the cervix, and the bladder is separated from the uterus by the finger. A median incision is made from the middle of

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the transverse incision, forward along the anterior vaginal wall for five centimetres, and the bladder separated from the vagina one or two centimetres on either side. The finger then tears through the peritonæum at its junction with the uterus, and examines the appendages. If the latter are adherent, they can usually be released, and if badly diseased, they can be drawn into the vagina and treated or removed, and small fibroids, if present, can be removed from the uterine walls.

After drawing down the cervix and retracting the anterior vaginal wall and bladder with a long retractor, the anterior uterine wall is exposed to sight and grasped with tenaculum forceps. A curved hæmostatic forceps is then passed up behind the bladder, under guidance of the finger, and made to grasp the bladder peritonæum and pull it down into view, and another forceps applied higher up to gently pull the parts down, and so on until the peritonæum, which was over the top of the bladder and behind the upper portion of the symphysis pubis, can be seen. Two long sutures of chromicized catgut are passed through the peritonæum at this point as high as possible and about a centimetre and a half to either side of the median line, and the bladder released, except as it is held by the long catgut sutures. The anterior wall of the uterus, already grasped by tenaculum forceps, is pulled into the vaginal opening, and the sutures are passed through the fundus uteri about the same distance on either side of the median line as they have been passed through the bladder peritonæum. This is easily done by the aid of a curved needle on a handle. All blood is now sponged out of the pelvis and the sutures tied and cut off, bringing the fundus uteri firmly up against and over the bladder about an inch behind the pubic bones.

The suspended uterus is now exposed by the vaginal retractors, whereupon the origin of the round ligaments can be seen. The index finger or a hæmostatic forceps pulls a loop of the left round ligament out into the vagina and draws it down until it is taut. Then a chromicized catgut suture is passed through it as near the inguinal end as practicable, and also through the anterior uterine wall directly above the visible place of origin of the ligament, and is tied. This draws the parts together, and the shortened ligament acquires an attachment a trifle nearer the fundus than before. The same is done on the right side, and thus both round ligaments are shortened and the general peritoneal cavity practically shut off.

In closing the wound, the sutures, which should include the con-

nective tissue under the bladder, are passed transversely, beginning at the end nearest the vulva, and restore the bladder to its original relation with the vagina. The transverse incision in front of the cervix is now closed by sutures so placed as to draw the two ends, which were three centimetres apart, together in the median line, thus not only drawing the connective tissue together in front of the cervix but also lengthening the anterior vaginal wall and pushing the lower end of the cervix backward. A few inches of a narrow strip of iodoform gauze are pushed into the wound and the end left hanging out near the cervix. It is removed in twenty-four hours. The patient is kept in bed for three weeks. No pessary is required.

After the operation bimanual examination shows the cervix to be eight or ten centimetres from the subpubic ligament, and the fundus to be over the bladder and behind but not over the pubes—that is, the uterus is in a normal position. In my first case I sutured the uterus to the bladder but did not shorten the round ligament, and had occasion to immediately open the abdomen from above to remove some omental tumors discovered during the operation. I saw the fundus uteri behind the pubes in about normal position and attached to the upper portion of the bladder, the sutures being concealed. I put in another suture from above, but the knot of this one, unlike the others, was exposed in the peritoneal cavity and demonstrated the advantage of introducing the sutures from below.

CASES.

I have done this operation eight times, although in my first operation I did not shorten the round ligaments, and in the last only I closed the transverse incision so as to approximate the ends instead of the sides. The operations were done on the following dates of this year: February 5th and 11th, March 11th (two cases), 12th, 17th, 24th, and 28th.

CASE I.—Mrs. C. had retroversion; had been almost bedridden for two years, and was unable to come to my office for examination. I removed an enlarged ovary with a large corpus luteum hæmatoma, and then some small fibroid tumors of the omentum, by an abdominal incision. I found a trace of blood on either side of the bladder that came from the raw surfaces on the anterior wall of the cervix uteri. This would have been prevented had I shut off the peritoneal cavity laterally by shortening the round ligaments, as in my later cases. The patient now has no abnormal symptoms and is growing strong.

Case II.—Mrs. C. Retroversion ; enlargement of both ovaries ; prolapse of the left ovary. Unable to come to my office. Attacks of intense pelvic pains requiring opiates for their relief, and deterioration of health. Came to my office two months after operation. No attacks of pelvic pain since operation. Uterus in normal position. This patient had a temperature of 102° during the second week. Fearing an abscess, I forced my finger into the tissues above the cervix for half an inch at the end of the second week, but found very strong union of the parts and no pus, although she complained of pain and tenderness in the bladder. Both pain and temperature subsided upon the administration the same night of one full dose of morphine. Whether the catgut became infected or not I can not tell, but no pus was found. The disturbance was probably due in a great measure to the restlessness following the sudden stopping of the opiate which she had previously taken for pain. Bladder symptoms have disappeared.

Case III.—Miss McC., virgin. Retroversion, endometritis, and enlarged ovaries. Hysterical. Chronic sufferer in spite of treatment. Normal temperature from time of operation. A slight pain in left iliac region similar to that before operation was felt during the first week she was allowed out of bed, but it has since disappeared. No bladder symptoms.

Case IV.—Miss W. Retroversion, endometritis, and enlarged ovaries. Patient had suffered a long time, and was obliged to give up her position in a store. Vaginal entrance was so small that a speculum examination was impossible. No unusual difficulty experienced in performing the operation. No elevation of temperature after operation. All symptoms have so far disappeared, except a feeling of general weakness.

Case V.—Miss Jennie M., virgin. Unable to work. Neurasthenia, pelvic pains, etc. Operation performed in public hospital. Temperature during third week 101° to 102° F. Shallow pit at site of gauze drainage probably due to catgut infection. Uterus normal in position. An old pain in the left leg is all she complains of.

Case VI.—Miss Y., virgin. Retroversion, endometritis, and enlarged ovaries ; right ovary size of large egg and cystic. Invalidism for years. Removed right ovary. Patient got up out of bed during the second week. No symptoms referable to operation except slight infection of bladder from prolonged use of catheter.

Case VII.—Mrs. O. Prolapse of uterus, cervix appearing at the vulva, with anterior and posterior colpocele. This was the first case

in which I drew the ends of the transverse incision together in the median line. I also removed a longitudinal strip of vaginal tissue on either side of the median-line incision so as to narrow the vagina. Emmet's perinæorrhaphy. This case presented more difficulty in suturing the uterus and ligaments than the virgin cases, on account of the redundancy of tissue.

The uterus has, so far, remained in position in every case.

This method of operating possesses, I think, the following recommendations:

1. It is not a dangerous method in competent hands.
2. It is efficient.
3. It possesses an advantage over vaginal fixation in that the position of the uterus is normal, the bladder resumes its normal relation to the uterus and vagina, and there is only slight liability to complication in childbirth. The attachment of the fundus is peritoneal and less firm than that from ordinary ventral fixation, and will undoubtedly stretch during pregnancy.
4. It is more easily performed than Alexander's operation, and there is greater certainty of its successful completion.
5. It gives access to the peritoneal cavity and thus affords an opportunity for accurate diagnosis, for the separation of adhesions, and for the treatment or removal of diseased tissues.
6. Patients prefer it to Alexander's operation with its two external incisions, or to ventral fixation with its abdominal wound. They feel less inconvenience after it, and never see or feel their wound.
7. There is no danger of hernia.

The above-described operation resembles in some respects the operations described by Wertheim a month later than my first operation (*Centralblatt für Gynäkologie*, March 7, 1896), and by Bode (*Centralblatt für Gynäkologie*, March 28, 1896), but is essentially different. Drawing down the peritonæum from behind the pubes into the vagina and stitching it to the fundus is entirely new so far as I know. Stitching the shortened round ligament to a higher place on the uterus is also different from Wertheim's methods of stitching the round ligament to the vaginal edges, or to the bladder at the reflection of the peritonæum, or of taking a reef in the ligament by sewing together a fold of it.

I prefer to combine the suspension over the bladder with shortening of the ligaments, because I do not think that the peritoneal attachment alone should be made to hold the fundus forward, and because the round ligaments alone might not prove sufficient.

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